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February 1, 2005

The Honorable Spencer Abraham
Secretary
Department of Energy
1000 Independence Ave SW
Washington, D.C. 20585

Dear Mr. Secretary:

I am writing regarding the Department of Energy's (DOE's) efforts to secure radioactive sources provided by the U.S. to other countries, as well as unwanted sources here in the U.S. that could be used to make dirty bombs or homemade nuclear weapons.

Since September 11, 2001, the immediate threat of unsecured radioactive materials is no longer disputable. I am concerned that the Department may not be doing all it can to retrieve and to secure these dangerous materials both here at home and abroad.

President Bush said during the first Presidential debate that he agreed with Senator Kerry that nuclear proliferation was the biggest threat to the U.S.: "I agree with my opponent that the biggest threat facing this country is weapons of mass destruction in the hands of a terrorist network." Last October, *Time* magazine reported that an Al-Qaeda operative captured in Pakistan claimed that Al-Qaeda wants to move nuclear materials into Mexico and then smuggle them across our southern border to attack us. More recently, Massachusetts officials were informed of a reported threat to the City of Boston involving suspects who might have access to nuclear materials. Even though these particular claims were not substantiated, the danger is clear, and there are plenty of materials available both abroad and within U.S. borders that could be in used in dirty bombs if we do not take the proper steps to fully secure such materials.

Many radioactive sources are already within our borders, residing in educational and medical institutions. In some cases, these nuclear materials are no longer wanted or are improperly secured. As for the nuclear materials sent overseas through the Atoms for Peace program in the 1950s, we simply don't know whether they are adequately secured. America's safety is at stake. We cannot afford to let these nuclear materials slip into the wrong hands.

The Department's responsibilities and programs in this area fall under the newly created Global Threat Reduction Initiative. As you know this Initiative includes the following programs:

1. **Foreign Research Reactor Spent Nuclear Fuel Acceptance (FRR SNF) and Russian Research Reactor Fuel Return (RRRFR).** The purpose of these two programs is to return highly enriched uranium (HEU) sent to foreign research reactors by the U.S. and Russia and other former Soviet countries because of the enormous nuclear weapons proliferation risk that HEU poses. To obviate this threat, the U.S. and Russia agreed to accept the return of either unused (fresh) or spent HEU fuel that they supplied to foreign research reactors. Given the proliferation threat of leaving HEU scattered around the world, the Department helps fund the return of former Russian- and other former Soviet Union-origin fuel back to Russia as well as funding the return of U.S.-origin HEU. I applaud the Department's recent decision in December to extend the timeframe over which spent fuel can be returned to the U.S.; however, I remained concerned with the speed at which the Department is retrieving this dangerous fuel from all countries.

   According to a November 19, 2004 GAO report (*DOE Needs to Consider Options to Accelerate the Return of Weapons-Usable Uranium from Other Countries to the United States and Russia* GAO-05-57), the Department needs to speed up this process. The GAO report found:

   - 12 of the 34 countries with U.S.-origin fuel have not returned any of their HEU and have no agreement in place to do so in the future. 11 countries have returned only a portion of their HEU.
   - Costs of returning HEU are prohibitive for many countries. Incentives, including the lowering of fees for return of HEU, must be considered to facilitate participation.
   - Large uncertainty in the Department's estimate of total costs to complete the Russian-origin return fuel program. Russian-origin HEU is located in at least 17 different countries.

2. **U.S. Radiological Threat Reduction Program (USRTR)**. The *Off-Site Source Recovery* (OSR) Program is part of USRTR and is responsible for collecting and storing unwanted sealed radioactive sources such as plutonium-239, cesium-137 and strontium-90. In 2003 I learned that the program was in danger of being eliminated, and I sent a letter on August 27, 2003 to the Department to express my deep concerns that the elimination of this program would leave over one thousand radioactive sources unsecured (see http://www.house.gov/markey/dirtybombs.htm). DOE wisely chose not to eliminate this vital program.

   The GAO issued a report on April 15, 2003, (*DOE Action Needed to Ensure Continued Recovery of Unwanted Sealed Radioactive Sources* GAO-03-483), on the status of the recovery of unwanted radioactive sources. The GAO found many problems with the OSR and highlighted five recommendations. Mr. Edward G. McGinnis from the Department testified before the Senate Energy and Natural Resources Committee on September 30, 2004 on what actions DOE is taking to meet GAO's recommendations. Mr. McGinnis

clearly outlined the serious threat that radiological materials pose to U.S. national security and assured the committee that Department has taken important steps to increase radiological threat reduction by giving it higher priority, increasing funding and expanding the Department's authority in this area. The GAO recommendations are:

- Higher priority be given the seriousness of the threat;
- Adequate resources be dedicated;
- Immediate action be taken to provide storage space for sealed sources containing plutonium-239, cesium-137 and strontium-90,
- A process be initiated to develop a permanent disposal facility for Greater-Than-Class-C radioactive waste;
- A plan be developed for continued recovery until such a permanent disposal facility is available.

3. **International Radiological Threat Reduction program in DOE.** The charge to the international recovery program is to recover radioactive materials the U.S. government sent overseas, such as plutonium-239 under the Atoms for Peace program. The GAO has been asked to examine this program, but the report is not yet available. Given the fact that plutonium-239 can be used in nuclear weapons and the threat of nuclear terrorism, securing this material not just at home but also overseas should be a high priority.

In light of the seriousness of the threat associated with the use of radioactive materials as dirty bombs or as homemade nuclear weapons, I ask for your prompt attention in responding to the following questions:

1) The GAO report (GAO-05-57) recommended that DOE create incentives for countries to return U.S.-origin HEU. Currently 11 countries of the 34 with U.S. origin fuel have no agreement on how to return their HEU to the U.S.

a) What steps are you taking to make agreements with those 11 countries that do not have them? Please provide a complete description of these activities, including a timeline for their completion.
b) What incentives will DOE propose to increase the return of HEU?
c) Where is the returned HEU being stored?
d) Please provide a list of all HEU exported to other countries. Please include the date on which the export was made, the country and facility to which it was made, the amount of HEU that was exported, the date on which the HEU was returned (if applicable), the date on which the HEU will be returned (if applicable), and the date on which the location of the material was last verified by U.S. or U.N. personnel.

2) The same GAO report (GAO-05-57) raised questions about DOE's estimates of the total cost of the return of Russian-origin HEU. The DOE estimates that the program will be completed by 2009 at a cost of $100 million, but the GAO report points out uncertainties in the cost of recovering spent HEU as opposed to fresh HEU. To date most HEU returned to

Russia has been fresh. Spent fuel is more radioactive and requires more costly handling procedures.

a) What countries have Russian- or other former Soviet countries-origin HEU? Please provide a list of all HEU exported by Russia and the former Soviet Union to other countries. Please include the date on which the export was made, the country and facility to which it was sent, the amount of HEU that was exported, the date on which the HEU was returned (if applicable), the date on which the HEU will be returned (if applicable), and the date on which the location of the material was last verified by U.S. or U.N. personnel.
b) How much of the Russian-origin HEU that has already been recovered is fresh fuel, and how much is spent fuel?
c) How much of the Russian/Soviet Union-origin HEU left to be recovered is fresh fuel, and how much is spent fuel?
d) How will the additional handling, transportation and storage requirements associated with spent fuel increase the total costs?

3) Another GAO report (GAO-03-483) called for the Department to "take immediate action to provide space for domestic sealed radioactive sources at a secure DOE facility and establish milestones by which progress can be measured to ensure that the storage space is provided as soon as possible." My staff was told by Department personnel that 180 plutonium-239 sources are planned for recovering in 2005 under U.S. Radiological Threat Reduction program (USRTR), but that another 500 remain in use in the U.S.

a) How many plutonium-239 sealed sources were distributed in the U.S.? Please provide a list of all such sources, including the date on which the source was distributed, the recipient of the source, the date on which the source was recovered (if applicable), the date on which the source will be recovered (if applicable), and the date on which the location of the source was last verified by U.S. personnel.
b) Can all plutonium-239 sealed sources in the U.S. be accounted for?

4) Many plutonium-239 sources were sent overseas under the Atoms for Peace program. My staff was told by Department personnel that 170 plutonium-239 sources were sent to foreign countries. My staff was told by the Department that the plutonium-239 sources were reportedly donations not loans; and therefore the U.S. is not obliged to take these sources back. Even though the Department is not responsible for the recovering all plutonium-239 sources from overseas, it can and does recover some sources, evaluating the need on a case by case basis.

a) The position that plutonium-239 sent overseas were donations implies that the Department does not view retrieving these materials as a high priority or even its responsibility. Given the danger of leaving plutonium-239 sources around the world without information on security, shouldn't the Department be proactively trying to retrieve all U.S.-origin plutonium-239 sources?
b) Have any U.S.-origin plutonium-239 sources sent overseas been returned to the U.S.? If yes, how many?
c) Please supply the inventory records from the Nuclear Material Management and Safeguards System, which lists import and export information on plutonium-239.

d) Can all remaining U.S.-origin plutonium-239 sources overseas be accounted for? If not, please list each source, including the estimated activity of the source, its last known location and date on which it was last accounted for.

5) GAO (GAO-03-483) was very specific that milestones be established to ensure and gauge progress in the recovery of plutonium-239 sealed sources in the U.S. Has DOE established such milestones? If so, please provide me with a description of each milestone and a timeline for its completion. If not, please explain why not.

6) In addition to plutonium-239, the GAO (see GAO-03-483) asked DOE to secure unwanted cesium-137 and strontium-90 in the U.S. The Department representative, Mr. McGinnis, reported in his testimony to the Senate that four large sources of Sr-90 were recovered in Texas. Mr. McGinnis also reported that recovery of cesium-137 had been delayed because of a shortage of funds due to a separate emergency request from the Nuclear Regulatory Commission (NRC).

a) How many unwanted strontium-90 sources are there in the U.S.? How many have been recovered? Please list each such source, including its estimated activity, its location, the date on which the source was recovered (if applicable) and the date on which the source will be recovered (if applicable).
b) How many unwanted cesium-137 sources are there in the U.S.? How many have been recovered? Please list each such source, including its estimated activity, its location, the date on which the source was recovered (if applicable) and the date on which the source will be recovered (if applicable).
c) What specifically is DOE doing to recover all unwanted sources of strontium-90 and cesium-137? When do you expect all of these unwanted sources to be recovered?

7) To ensure that adequate storage is available to meet the needs of all future radiological materials, GAO has recommended that DOE develop a permanent disposal facility for Greater-Than-Class-C radioactive waste. The GAO has said (see GAO-03-483) that "DOE is unlikely to provide a disposal facility by fiscal year 2007, and DOE lacks a plan for recovering sealed sources if the disposal facility is delayed." Mr. McGinnis testified that the DOE first needed to prepare an Environmental Impact Statement. He further stated that it is important that the "sealed source recovery effort is not wholly dependent upon developing a new disposition path. There is a very capable commercial industry that can and has served as an effective pathway for disposition, interim storage, and/or recycling for re-use."

This statement seems to contradict the opinion expressed by Dr. Alan Pasternak, Technical Direction of California Radioactive Materials Management Forum, who also testified before the Senate Committee on September 30, 2004:

> "The National Picture: Disposal capacity for low-level radioactive waste is limited and dwindling. On the nation's present course, by July 2008, public and private organizations and most government agencies that use radioactive materials in thirty-four to thirty-six states, the District of Columbia, and Puerto Rico will have no place to dispose of their more radioactive categories of low-level radioactive waste."

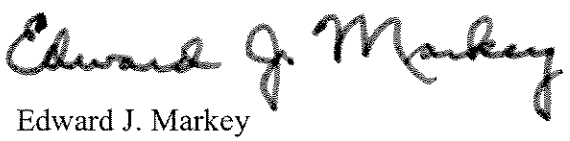
In light of this testimony please indicate:

a) Is DOE currently preparing a proposal for a permanent disposal facility for Greater-Than-Class-C radioactive waste? If so, please provide a complete timeline for its completion, including how much it will cost to construct.
b) Please explain Mr. McGinnis's comment that "sealed source effort is not wholly dependent upon developing a new disposition path…there is a very capable commercial industry" in light of Dr. Pasternak's testimony indicating that we do not have sufficient storage capacity.

8) The Off-Site Source Recovery Program has been under-funded in the past. This year Congress appropriated $5.6 million.
a) What specifically will be done with the appropriated funds for 2005?
b) Will the funds be sufficient to also build or convert a facility to a permanent storage facility?
c) Mr. McGinnis indicated in his testimony that the Department would ask for increases in funding in subsequent years. Please provide details of the projected costs of the off-site source recovery program for 2006 through 2010.

Thank you for consideration of this important matter. Please provide you response no later than February 25, 2005. If you have any questions or concerns, please have your staff contact Dr. Katie Donnelly or Dr. Michal Freedhoff on my staff at 202-225-2836.

Sincerely,



Edward J. Markey